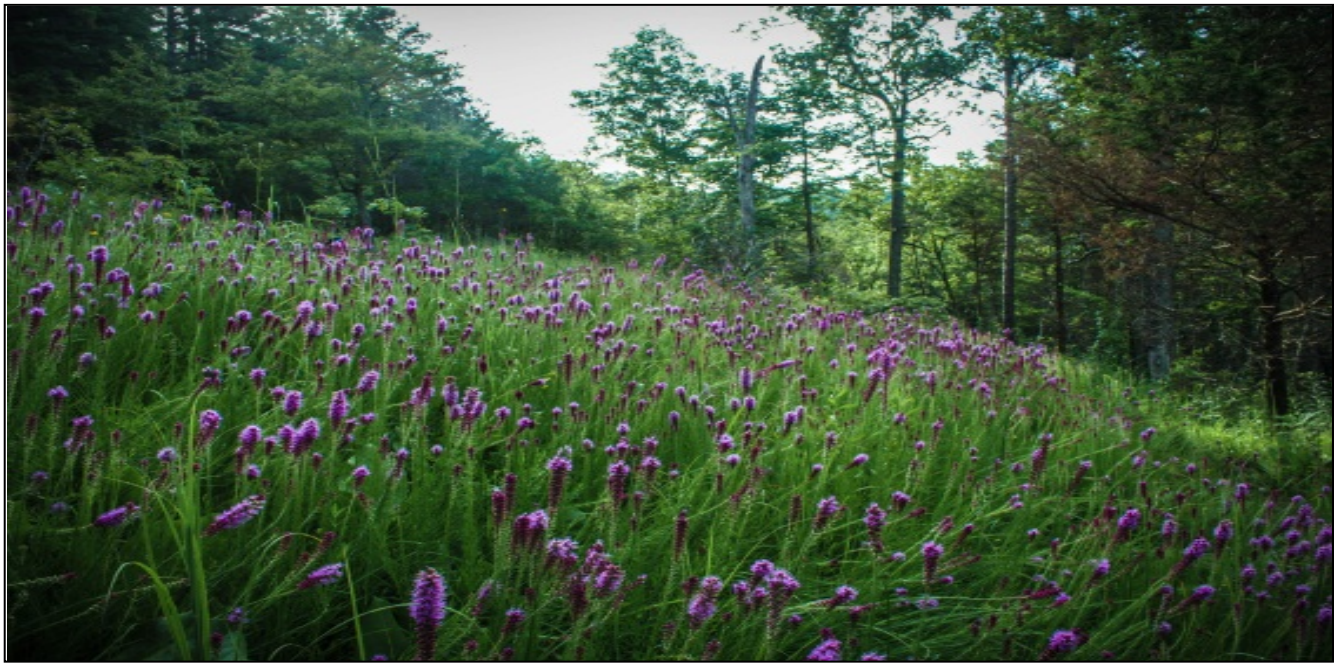
Partnership for Prescribed Burning Provides Multiple Benefits
Ozark National Scenic Riverways, Missouri
Cohesive Strategy – Maintain and Restore Resilient Landscapes

By Dan Drees, Fire Ecologist



Prairie blazing star (Liatris pycnostachya) blooming on a dolomite glade in the Thorny Creek prescribed burn unit.

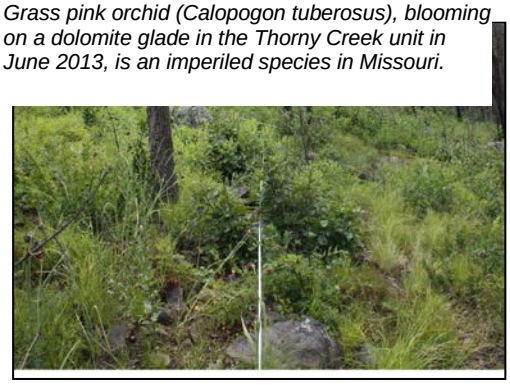
The Thorny Creek Prescribed Burn was conducted April 5-7, 2013, at Ozark National Scenic Riverways and was a partnership effort that resulted in multiple benefits. This was a joint prescribed fire project conducted with Missouri Department of Conservation, encompassing neighboring lands administered by both agencies. Firefighters from Ozark National Scenic Riverways, Buffalo National River, Missouri Department of Conservation, The Nature Conservancy, AmeriCorps, and one rural fire department conducted the prescribed burn. It is a true measure of success when staff from six entities join together to accomplish a common goal.

Originally the NPS had five prescribed burn units totaling 903 acres in the Thorny Creek area. Cooperation with the Missouri Department of Conservation consolidated these five units into one and increased the unit to 2,232 acres. This expansion greatly increased operational safety and efficiency by expanding the perimeter of the unit to the Current River and an existing road system. It also dramatically impacted the financial efficiency of the project compared to previous years, reducing the average cost per acre from $79 to $5.

Ozark National Scenic Riverways preserves the unique natural and cultural resources of the Ozarks region. This burn was prescribed to reduce the threat of wildfire which could impact historic or private structures adjacent to the unit.

Additional objectives of this burn were to restore declining glade and woodland habitat, once common in the area. One written goal of the burn was to increase the average number of grass and wildflower species in the glade habitat by at least 40% from pre-burn conditions. Monitoring data collected from seven plots widely scattered through the unit showed that glades averaged a 120% increase in native grass and wildflower species (see photos to right).

Grass pink orchid (Calopogon tuberosus), blooming on a dolomite glade in the Thorny Creek unit in June 2013, is an imperiled species in Missouri.



Plot photos of igneous glade plot 13 in Thorny Creek prescribed burn unit in June 2002 (top) prior to the first prescribed burn and in July 2013 (bottom) following the fourth burn illustrate a 167% increase in herbaceous plants in this plot.

Another written goal of the prescribed burn was to increase the average number of grass and wildflower species in the woodland habitat by at least 20% from pre-burn conditions. Data from eight additional plots indicate that woodlands averaged a 56% increase in native grass and wildflower species. All of these glade and woodland plots had received at least one prescribed burn, and some three, prior to this year.

Increasing the diversity and abundance of native grasses and wildflowers typically serves as a desirable measure of success because these “herbaceous” plants are often shaded out when woody plants become over-abundant. In the Ozarks, restoring the diversity and abundance of herbaceous plants typically increases wildlife diversity and abundance.

Prairie warblers, quail, and wild turkeys are among the bird species that show notable population increases associated with glade and woodland restoration. Many bird species benefit from glade and woodland restoration because the increase in herbaceous plant diversity and abundance promotes greater insect diversity and abundance. That fact has also increased the population of collared lizards on nearby Thorny Mountain. Expectations are high that collared lizards will soon colonize the restored glades in the Thorny Creek unit.

Herbaceous plants also serve as the primary forage for deer and the newly reintroduced herd of Missouri elk that has been released on land adjoining the Thorny Creek burn unit. Elk were historically the keystone grazers in Ozark glade and woodland habitat.

We restore glades and woodlands to benefit many species that are currently declining, such as the beautiful grass pink orchid, while also restoring fuel levels to their historic norms. The success of this project was measurable in numerous ways, but the ultimate measure of success may be the discovery of a fire-benefitted species of which we are not yet aware. Although fire has been a formative process shaping Ozark biodiversity for millennia, we are still humbled by what nature has to teach us.

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